

kernel
clump



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- [54] **METHOD AND SYSTEM FOR TEXTURE MAPPING IMAGES WITH ANISOTROPIC FILTERING**
- [75] **Inventors:** Steven A. Gabriel, Redmond; Kent E. Griffin, Bellevue, both of Wash.
- [73] **Assignee:** Microsoft Corporation, Redmond, Wash.
- [*] **Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).
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Related U.S. Application Data

- [63] Continuation-in-part of application No. 08/560,114, Nov. 17, 1995, abandoned, which is a continuation of application No. 08/511,553, Aug. 4, 1995, abandoned.
- [51] **Int. Cl.⁶** G06F 15/00
- [52] **U.S. Cl.** 345/430
- [58] **Field of Search** 345/418-20, 430-31, 345/433-37, 501-85

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Primary Examiner—Phu K. Nguyen
Attorney, Agent, or Firm—Klarquist Sparkman Campbell Leigh & Winston LLP

[57] **ABSTRACT**

A method for texture mapping an image includes passing an interpolating filter along a line of anisotropy in a texture map and computing a weighted sum of the outputs of the interpolating filter to compute pixel intensity values. The weighting of these output values can be computed using a one dimensional digital filter. The line of anisotropy is derived from the inverse transform, which describes the mapping of a point on the surface of a geometric primitive to a point in the texture map. A system supporting anisotropic filtering includes texture memory, a set-up processor, and a texture filter engine. The set-up processor parses a command stream and retrieves texture data into the texture memory. The texture filter engine determines the line of anisotropy for a pixel and computes a weighted sum of interpolated values sampled along the line of anisotropy.

24 Claims, 36 Drawing Sheets

